SFP/XFP Modules

Small Form Pluggable Modules

Copper (10/100/1000 and 1000 Mbps) and Fiber (155 Mbps / 1.25 Gbps / 2.4 Gbps / 10 Gbps)

RoHS Compliant

SFP MODULES

Future-proof network equipment using copper SFPs and fiber SFPs and XFPs

SFPs and XFPs are compact transceivers which function as modular connectors. Available for copper (RJ-45) and for all common fiber modes, wavelengths and data rates, SFPs and XFPs allow network operators to connect different interface types to the same network equipment, via an SFP/XFP port. The cost of cable upgrades is greatly reduced - preserving the investment in costly networking equipment, for the price of a relatively inexpensive SFP or XFP. More and more network equipment is being designed with SFP/XFP ports, to take advantage of this flexibility, and to take the uncertainty and guesswork out of expensive equipment purchases. Remember to select the SFP or XFP to match the speed of the designated port.

Fiber SFPs & XFPs (Ext. Temp.)

Features and Benefits

Robust Industrial Performance
- Extended operating temperature range
- Hot swappable

Future Friendly
- Available in a wide range of fiber types, wavelengths and transmission rates to meet almost any networking need
- Includes single-strand fiber versions

Extended Diagnostics
- Powerful Digital Diagnostics Monitoring Interface (DDMI) for troubleshooting

Standards Compliant
- Multi-source package with Duplex LC or Single-Strand SC connector
- Eye Safety meets Laser Class 1 compliance with IEC 60825-1
- Complies with Telecordia GR-468-CORE

Choose From Four Data Rates

155 Mbps
- Compliant with ITU-T G.957, G.958 and IEEE 802.3u
- Applications: Fast Ethernet, OC-3/STM-1 and other optical links

1.25 Gbps
- Compliant with specifications for IEEE 802.3z
- Applications: Gigabit Ethernet and other optical links

2.4 Gbps
- Applications: Gigabit Ethernet, OC-48 and other optical links

10 Gbps
- Applications: Ten Gigabit Ethernet, OC-192 and other optical links

Specifications	
Parameter	**Range**
Input Voltage	3.3V
Operating Temperature [1,*]	-40° to +85° C
Storage Temperature	-40° to +85° C

[1] 10 Gbps IE-SFP+ versions' Operating Temp is -10° to +70° C
* CWDM & 10 Gbps IE-XFP versions' Operating Temp is 0° to +70° C

Copper SFPs

Features and Benefits

Applications
- Gigabit Ethernet over Cat 5 cable
- Switch/Router to Switch/Router Link
- High speed I/O for file severs

Features
- Up to 1.25 Gbps bi-directional data links
- Hot-pluggable SFP footprint
- Temperature range (0° to +70° C)
- Fully metallic enclosure for low EMI
- Low power dissipation
- Compact RJ-45 connector assembly
- Detailed product information in EEPROM
- Access to physical layer IC via 2-wire serial bus
- 10/100/1000 BASE-T operation in host systems with SGMII interface

Standards Compliant
- Compliant with SFP MSA
- Compliant with IEEE Std 802.3TM-2002
- Compliant with FCC 47 CFR Part 15, Class B
- RoHS compliant

Two Versions Available:
- 10/100/1000 Mbps, SGMII interface
- 1000 Mbps only, SERDES interface

Specifications	
Parameter	**Range**
Input Voltage	3.3V
Operating Temperature	0° to +70° C
Storage Temperature	-40° to +100° C

SFP Diagnostics Information

Standard Information Reported:

- SFP/XFP Type
- Fiber Link Length
- Wavelength
- Bit Rate
- Date Code
- Serial Number

DDMI/Extended Diagnostics Reported

- Temperature
- Voltage
- Bias Current
- TX Power
- RX Power

Fiber Optics Specifications

For each product listed below in the Ordering Information section, the DISTANCE represents an approximate fiber distance based on industry-standard fiber attenuation specifications. Actual distances will vary for each installation. For complete power budgets and information on calculating specific distances, visit www.imcnetworks.com/go/fcs or contact IMC Networks Fiber Consulting Services at 949-465-3000.

Ordering Information

SFP Modules: Copper

PART NUMBER	PORT DESCRIPTION	CONNECTOR	DISTANCE
808-39001	10 - 1250, TX	RJ45	100 m
808-39010	1250, TX	RJ45	100 m

IE-SFP Modules: 100 to 155 Mbps (OC-3) [2]

PART NUMBER	PART NUMBER	PORT DESCRIPTION	FIBER	DISTANCE	POWER BUDGET
W/ DDMI	W/O DDMI				(db)
808-38101	808-38111	MM850	LC	2 km	14.5
808-38102	808-38112	MM1300	LC	2 km	15
808-38103	808-38113	SM1310	LC	15 km	13
808-38104	808-38114	SM1310/PLUS	LC	40 km	31
808-38105	808-38115	SM1550/LONG	LC	80 km	31
Single-Strand Fiber					
808-38121	808-38131	SSFX-SM1310/1550	SC	15 km	20
808-38122	808-38132	SSFX-SM15501310	SC	15 km	20
808-38123	808-38133	SSFX-SM1310/1550/PLUS	SC	40 km	29
808-38124	808-38134	SSFX-SM1550/1310/PLUS	SC	40 km	29
808-38521	808-38531	SSFX-SM1310/1550	LC	15 km	15
808-38522	808-38532	SSFX-SM1550/1310	LC	15 km	15
808-38525	808-38535	SSFX-SM1310/1550/LONG	LC	60 km	31
808-38526	808-38536	SSFX-SM1550/1310/LONG	LC	60 km	31
808-38127	808-38537	SSFX-SM1490/1550/XLONG	SC	80 km	32
808-38128	808-38538	SSFX-SM1550/1490/XLONG	SC	80 km	32

IE-SFP Modules: 1.25 Gbps Gigabit Ethernet (OC-24) [2]

PART NUMBER	PART NUMBER	PORT DESCRIPTION	FIBER	DISTANCE	POWER BUDGET
W/ DDMI	W/O DDMI				(db)
808-38201	808-38211	MM850	LC	550 m	7.5
808-38202	808-38212	SM1310	LC	10 km	13
808-38203	808-38213	SM1310/PLUS	LC	30 km	17
808-38204	808-38214	SM1550/LONG	LC	40 km	17
808-38205	808-38215	SM1550/XLONG	LC	70 km	23
808-38208	808-38218	SM1550/XXLONG	LC	120 km	30
Single-Strand Fiber					
808-38221*	808-38231	SSLX-SM1310/1550	SC	10 km	12.5
808-38222*	808-38232	SSLX-SM1550/1310	SC	10 km	12.5
808-38223*	808-38233	SSLX-SM1310/1550/PLUS	SC	30 km	21
808-38224*	808-38234	SSLX-SM1550/1310PLUS	SC	30 km	21
808-38225	808-38235	SSLX-SM1490/1550/LONG	SC	70 km	23
808-38226	808-38236	SSLX-SM1550/1490/LONG	SC	70 km	23

* Also available with LC connectors

IE-SFP Modules: 2.4 Gbps Gigabit Ethernet (OC-48) [2]

PART NUMBER	PART NUMBER	PORT DESCRIPTION	FIBER	DISTANCE	POWER BUDGET
W/ DDMI	W/O DDMI				(db)
808-38301	808-38321	MM850	LC	300 m	7.5
808-38302	808-38322	SM1310	LC	2 km	8
808-38303	808-38323	SM1310/PLUS	LC	15 km	13
808-39304	808-38324	SM1550/LONG	LC	40 km	16

All SFPs carry a comprehensive one year warranty.

IE-SFP+ Modules: 10 Gbps Ethernet (OC-192) with DDMI [1, 2]

PART NUMBER	PORT DESCRIPTION	FIBER	DISTANCE	POWER BUDGET(db)
808-38600	IE-SFP+SR/10G-ED, MM850	LC	33 m	2.8
808-38601	IE-SFP+LR/10G-ED, SM1310	LC	10 km	8.4

IE-XFP Modules: 10 Gbps Ethernet (OC-192) with DDMI [1]

PART NUMBER	PORT DESCRIPTION	FIBER	DISTANCE	POWER BUDGET(db)
808-38610	IE-XFP SR/10G-ED, MM850	LC	33 m	2.8
808-38611	IE-XFP LR/10G-ED, SM1310	LC	10 km	8.4
808-38612	IE-XFP ER/10G-ED, SM1550	LC	40 km	15
808-38613	IE-XFP ZR/10G-ED, SM1550/PLUS	LC	80 km	23

IE-SFP Modules: CWDM (155 Mbps/1.25 Gbps)

PART NUMBER		DESCRIPTION	FIBER	DISTANCE		POWER BUDGET (db)	
155 Mbps	1.25 Gbps			155 Mbps	1.25 Gbps	155 Mbps	1.25 Gbps
808-38141	808-38241	CWDM-SM1270	LC	80 km	70 km	33	22
808-38142	808-38242	CWDM-SM1290	LC	80 km	70 km	33	22
808-38143	808-38243	CWDM-SM1310	LC	80 km	70 km	33	22
808-38144	808-38244	CWDM-SM1330	LC	80 km	70 km	33	22
808-38145	808-38245	CWDM-SM1350	LC	80 km	70 km	33	22
808-38146	808-38246	CWDM-SM1370	LC	80 km	70 km	33	22
808-38147	808-38247	CWDM-SM1390	LC	80 km	70 km	33	22
808-38148	808-38248	CWDM-SM1410	LC	80 km	70 km	33	22
808-38149	808-38249	CWDM-SM1430	LC	80 km	70 km	33	22
808-38150	808-38250	CWDM-SM1450	LC	80 km	70 km	33	22
808-38151	808-38251	CWDM-SM1470	LC	80 km	70 km	33	22
808-38152	808-38252	CWDM-SM1490	LC	80 km	70 km	33	22
808-38153	808-38253	CWDM-SM1510	LC	80 km	70 km	33	22
808-38154	808-38254	CWDM-SM1530	LC	80 km	70 km	33	22
808-38155	808-38255	CWDM-SM1550	LC	80 km	70 km	33	22
808-38156	808-38256	CWDM-SM1570	LC	80 km	70 km	33	22
808-38157	808-38257	CWDM-SM1590	LC	80 km	70 km	33	22
808-38158	808-38258	CWDM-SM1610	LC	80 km	70 km	33	22
808-38178[3]	-	CWDM-SM1610	LC	80 km	70 km	33	22

[1] 10 Gbps XFP (OC-192) and 10 Gbps SFP+ (OC-192) form factors have varying dimensions and are not typically interchangeable; this will depend on the device type.
[2] 10 Gbps SFP+ (OC-192) and Fiber SFPs (OC-3, OC-24 and OC-48) form factors have virtually identical dimensions and are not typically interchangeable; this will depend on the device type.
[3] Does not support Extended Diagnostics (DDMI).

IMC Networks SFP Compatible Products

PART NUMBER	DESCRIPTION
856-14500	iMcV-FiberLinX-II, TX/SFP, SFP (requires one *IE-SFP/155-ED* module)
856-14501	iMcV-FiberLinX-II, SFP/SFP, SFP (requires two *IE-SFP/155-ED* modules)
856-14760	iMcV-Giga-FiberLinX-II, TX/SFP (requires one *IE-SFP/1250-ED* module)
856-14761	iMcV-Giga-FiberLinX-II, SFP/SFP (requires two *IE-SFP/1250-ED* modules)
855-10619	MiniMc, TP/TX/SFP (requires one *IE-SFP/155* module)
857-14300	iMcV-E1-Mux/4, SFP (requires one *IE-SFP/155* module)
857-14400	iMcV-E1-Mux/4+Ethernet, SFP (requires one or two *IE-SFP/155* modules)
855-19619	IE-ModeConverter w/ AC Adapter (requires two *IE-SFP/155, 1250 or 2.4* modules)
854-19619	IE-ModeConverter w/o AC Adapter (requires two *IE-SFP/155, 1250 or 2.4* modules)
850-19500	IE-iMcV-ModeConverter, SFP/SFP
852-14441	iMcV-Switch, TX/4 + SFP (requires one *IE-SFP/155* module)
852-14442	iMcV-Switch, TX/4 + 2 x SFP (requires two *IE-SFP/155* modules)
850-18912	IE-iMcV-Gigabit, TX/SFP (requires one *IE-SFP/1250-ED* module)
856-18901	IE-iMcV-MediaLinX, TX/SFP (requires one *IE-SFP/155* module)

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